DOCUMENT RESUME

ED 361 296 SP 034 670

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TITLE Teacher Implementation of Change.
PUB DATE Apr 93
NOTE 11p.; Paper presented at the Annual Meeting of the American Educational Research Association (Atlanta, GA, April 12-16, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cooperative Learning; Elementary Education; Elementary School Teachers; Models; *Program Implementation; Teacher Administrator Relationship; Teacher Attitudes; Teacher Participation; *Teacher Role; Teaching Experience; Teaching Methods; Teaching Styles

ABSTRACT

This study examined to what extent teachers who choose to take a course about cooperative learning implement the innovation and which factors account for variation in use of cooperative learning in their classrooms. Nine female elementary teachers were observed and interviewed. Teachers were categorized as effective users, competent users, marginal users, and nonusers, based on frequency of use, degree and kind of adherence to characteristics of the cooperative learning model, types of activities used in cooperative learning lessons, and degree of incorporation of the language and ideas of cooperation into the classroom. Four categories of factors appeared to influence teacher implementation of cooperative learning: the principal, the teacher's approach to teaching, the teacher's perception of cooperative learning, and the amount and kind of continued involvement the teacher has with the innovation. Results of this study are felt to differ from previous research on change in three ways: the study provides a different point of view in terms of the kind of support from the principal that is important; some of the teacher characteristics that appear to be influential are not those identified in the literature; and collegial support does not seem to be necessary in the way indicated by previous studies. Recommendations for practice are outlined. (Contains 14 references.) (JDD)

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ED 361 296

Teacher Implementation of Change

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(Paper presented at AERA, Cooperative Learning SIG, April 1993)

Cooperative learning is one of today's educational bandwagons. Inservices are given, conferences are planned, and courses are offered, all to instruct teachers in the use of cooperative learning. Yet, despite the onslaught of information and training available, not all teachers implement this innovation in their classrooms or continue to do so after initial adoption. Much research has been conducted showing the positive effects of cooperative learning in terms of student academic and social skill outcomes, but no studies investigating why teachers choose to use or not to use cooperative learning appear in the literature on change. The following study addresses two key questions: (1) To what extent do teachers who choose to take a course about cooperative learning implement the innovation? and (2) What factors account for the variation in their use?

Subjects

Nine female elementary teachers in a large metropolitan area in the Midwest were observed and interviewed. The teachers were from six different schools, representing four different districts. The total years each teacher had spent in teaching ranged from eight to twenty years, and all of them had been in their current schools for at least seven years.

All the teachers had taken a course on cooperative learning offered by the same university instructor. Four of the teachers had no prior exposure to cooperative learning before taking the course; three had done some reading in the area; and two had attended a brief forum on cooperative learning sponsored by a nearby university. All teachers had originally adopted cooperative learning after taking the course. Four had continued their involvement outside their own classrooms by conducting inservices for other teachers and by attending follow-up workshops. Three teachers had continued their involvement in a very limited way by conducting one inservice together and a few sporadic one-hour exposure sessions for other teachers in their building. The other two teachers had not continued their involvement in or their learning about cooperative learning.

Methodology

An initial formal interview was conducted prior to classroom observations. The purpose of this interview was to determine how much each teacher thought she was using cooperative learning and her perceptions of the innovation. In

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addition, background information was checked, and some general information about the school was obtained.

Subjects were observed either two half-days and three full-days or four full-days. To insure that a more accurate picture of typical classroom activity was seen, two of the observations were scheduled during the same week, often on consecutive days. The remaining observations were spaced weeks apart, so that the entire time span for the observations covered between four and eight weeks.

Following each observation, an informal interview of the subject was conducted. The purpose of these interviews was to clarify any questions concerning what was observed or to seek explanation for any inconsistencies between that observation and the previous interview.

A second semi-structured, formal interview was sheduled with each subject after either the penultimate or the final observation. Information was obtained focusing on factors that might account for the extent of each subject's use of cooperative learning, in terms of frequency and quality. The questions were used to elicit information in terms of collegial and administrative support, students, teacher characteristics, and influence of parents.

In addition, data from interviews of the principals and other faculty were collected because previous studies have indicated that influence of adminstration and support from other faculty help determine the degree of implementation of an innovation.

Analysis of the Data

Extent of Implementation (Table 1)

The teachers were put into one of four categories, based on the extent of their implementation of cooperative learning: effective users, competent users, marginal users, and nonusers. Differences among the subjects are in the following areas: frequency of use, degree and kind of adherence to the six characteristics of the cooperative learning model, types of activities used in cooperative learning lessons, and degree of incorporation of the language and ideas of cooperation into the classroom.

Cooperative learning activities are used daily by effective users. Their activities clearly contain all six characteristics of the cooperative learning model, and various ways to incorporate each characteristic are employed. In addition to using cooperative learning in all subject areas, a wide range of learning activities involving different levels of cognitive skill is seen in these classrooms. Finally, effective users have clearly incorporated cooperation into their classrooms.

Cooperative learning occurs about two or three times a week in the classrooms of competent users. Most of the six characteristics of the model are present, but the same ways to insure them are used. Problem solving and application activities are not used in cooperative learning, and the number of

subject areas is also limited. Cooperation has been incorporated into the classroom routine, however.

Marginal users only structure cooperative learning activities once or twice a week. Some of the characteristics of the model are either indistinct or missing. Rote memory and practice activities tend to be the only types of cooperative learning used. There is only some incorporation of cooperation into the classroom learning environment.

Factors Influencing Implementation (Table 2)

Four categories of factors appear to influence teacher implementation of cooperative learning: the principal, the teacher's approach to teaching, the teacher's perception of cooperative learning, and the amount and kind of continued involvement the teachers has with the innovation.

The importance of the role of the principal in terms of the implementation of cooperative learning seems clear. A principal who has educational concerns rather than managerial ones, who sees himself or herself as a facilitator of change rather than the leader and initiator, and who freely recognizes and praises the "idea champions" of the faculty seems to correlate with the implementation of cooperative learning.

Teachers who tend to have an active instructional teaching style were the ones who are more effective and competent users of cooperative learning. Teachers who have high time management concerns are less likely to be implementers of cooperative learning; those with high collaboration concerns are more likely to be implementers. Teachers with classroom management approaches that focus on group process and interrelationships within the classroom tend to be implementers of cooperative learning more often than teachers with strong authoritarian approaches. If teachers perceive cooperative learning to be both practical and compatible to their situations, they seem more likely to implement the innovation. Teachers who maintain a certain degree of professional distance from their students are more likely to be users of cooperative learning activities. If teachers make self-deprecating remarks and only discuss their students as either individuals or as a whole class, but not as both, they are less likely to be users of cooperative learning. A high degree of visual stimulation in the classroom, especially teacher-made materials and student work, appears to be an indication of an implementer of cooperative learning.

Although all of the subjects currently use innovations in their classrooms to some extent, the use of a few seems rather fleeting as they "plug-in" aspects (as one subject suggested) that appear to "work," according to the teacher's perception, and discard others. Other subjects have incorporated these innovations, including cooperative learning, into their classrooms, with the result that there appears to be an evolutionary or spiraling effect on their teaching.

Finally, continued involvement outside one's own classroom seems to be a key to continued implementation. Attending follow-up workshops and conducting inservices for other teachers appear important. Contrary to previous research in the area of change, however, this support and involvement has a greater positive impact if it is the result of contact with teachers outside one's own building rather than immediate colleagues.

Interpretation of Findings

Some of the results of this study, regarding the factors that influence teacher implementation of cooperative learning, differ from previous research on change. First, this study provides a different point of view in terms of the kind of support from the principal that is important and what might enable the principal to be supportive. Second, as the literature indicates, individual teachers may influence implementation of an innovation; however, some of the characteristics that appear to be influential, according to this study, are not discussed in the literature on change. Finally, collegial support does not seem to be necessary in the way indicated by previous studies. A number of explanations could account for these results.

Principal Support

Several studies on staff development (Fielding & Schalock, 1985; Huberman, 1983; Loucks & Zacchei, 1983; McLaughlin & Marsh, 1978; Stallings & Mohlman, 1981) have shown the importance of the principal in the change process. Results stress the need for the principal to take a leadership role. Other research (Daft & Becker, 1978) suggests that individuals within the organization, other than those in charge, need to initiate change. Those in charge should act as facilitators, and they must be able to recognize the "idea champions" within their organizations.

This study supports the second description of the kind of principal support that is needed for the implementation of change. The effective and competent users of cooperative learning were given a great deal of special recognition and support by their principals. They were "team leaders," and this is how they were described by their principals. General, undifferentiated support of change does not appear to be enough. Focusing such support on the "idea champions" seems essential.

In addition to being facilitators, rather than leaders, of change, the principals of "idea champions" focus on educational, not managerial, concerns. Such a focus may help them be more sensitive to the "winds of educational change" that may be blowing in their schools. They may be more ready, then, to provide the necessary support. Further awareness of the sources of change may come from being more visible in the school. Not only do the principals' physical presence and accessibility provide support, but these are also means by which the principal learns first-hand about what is happening in the school.

Teacher Characteristics

Teacher attitudes and perceptions regarding the innovation influence implementation, according to the literature on change (Campbell, 1982; Sparks,

1988). This study supports the suggestion that teachers who perceive the innovation as practical are more likely to continue to implement it (Doyle & Ponder, 1977). The nonusers of cooperative learning all provided a rationale for their current lack of use, despite the fact that they indicated having used cooperative learning immediately following the course. Their reasons were the following: cooperative learning does not work with computers, cooperative learning does not work with first graders, and learners who need individualized work do not do well with cooperative learning. Interestingly enough, the vast research conducted to show the effectiveness of cooperative learning clearly contradicts each of these reasons (see Johnson & Johnson, 1989). Cooperative learning is more effective than either competition or individualized instruction with students working on computers. All age groups benefit both academically and socially when they are exposed to cooperative learning on a regular basis. Individualized instruction does not have to be completely abandoned if a teacher chooses to incorporate cooperative learning into the classroom. The situations of users of cooperative learning in this study also dispute these rationales. One effective user structures her instruction in computers for her third graders so they are working cooperatively. The two competent users teach first grade. Although they both think first graders may be too needful of teacher input to do high level academic work in small groups, they do use cooperative learning on a regular basis. Finally, both effective users have successfully incorporated a cooperative learning structure into their individualized math programs.

This study also supports the research that shows a teacher's perception of how compatible the innovation is with current practice influences implementation (Doyle & Ponder, 1977; Sparks, 1988). Compatibility, in terms of teaching style and classroom management, seems important to the implementation of cooperative learning. Those teachers who have an active instruction teaching style, based on their descriptions of themselves and on observations in their classrooms, were able to continue their implementation of cooperative learning more successfully. Cooperative learning is a very interactive teaching/learning method, so teachers who rely on teacher-directed activities would find it more difficult to adapt to the structure of the cooperative learning model.

Compatibility to an approach in classroom management has not been directly discussed in earlier studies. As noted previously, though, some think that cooperative learning may require greater, or at least different, management skills than other more teacher-dominated activities (Jones & Jones, 1986). Teachers who approach classroom management in terms of student input into the group process and in terms of the interrelationships within the classroom may have an advantage when it comes to implementing cooperative learning. This innovation is so dependent upon student involvement that a teacher's level of comfort with having students involved in the day to day management of the class may affect the ease

with which it is implemented. This can be seen in the fact that teachers who follow the group-process or the socio-emotional classroom management approaches, which involve student input, were either effective or competent users.

It is difficult to know for certain if the teaching style and the approach to classroom management influence the implementation of cooperative learning or if the reverse is true. Based on the data from the interviews of the subjects, however, it does appear that their approaches to teaching and classroom management did not really change as the result of implementing cooperative learning; instead, cooperative learning is seen as fitting the approaches they had prior to being exposed to cooperative learning.

The amount of visual stimulation that a teacher has in the classroom may be a concrete, observable display of commitment to teaching, involvement in one's work, and enjoyment of being in the classroom. Such an attitude is probably important when a teacher decides to implement any innovations. Because cooperative learning requires a great deal of time in planning when a teacher is initially learning to implement it, such an attitude may be particularly necessary.

In addition, the teacher's perceptions of his or her abilities to cope with the overall organization of the class and to understand and carry out the new approach are very important. If teachers feel incapable of managing time within a traditional routine and find it difficult to remember things, it is doubtful that they will be comfortable using any innovation, including cooperative learning. Their implementation of the innovation will be, at most, very marginal.

Finally, cooperative learning is a very student-focused innovation. Students are involved in small groups, and the teacher is expected to monitor and reward group effort and products. Students must also be viewed as individuals, however. The teacher is also expected to be able to balance the small groups and to insure heterogeneity. This is impossible to do with any accuracy and sensitivity if students are never thought of and discussed as individuals. Implementation of cooperative learning, then, requires that teachers view students as both individuals and as a whole group.

Collegial Support

Staff development research has suggested the importance of peer support if change is to be implemented. Studies indicate that such support may be particularly important to those implementing cooperative learning (Edwards & Stout, 1989/1990; Ellis, 1989/1990). This study suggests that the kind and place of the support may be more of a factor than just generic "support," however.

It is possible that the higher level users have found the necessary focused support from the vast research base for cooperative learning. In the last two years alone, at least one article has appeared each month in educational journals, and sometimes entire issues have been devoted to a study of cooperative learning. Numerous conferences, short inservice workshops, and convention sessions have

emphasized the benefits of using cooperative learning. This kind of support may be what is needed for teachers attempting to implement cooperative learning.

In addition, teaching is a relatively lonely, isolated profession (Lortie, 1975). The independence that results for teachers who have strong, positive self-concepts may make them less needful of collegial support, especially from those close at hand.

Finally, stagnation in implementation may result if the only support is from colleagues in one's own school who are at the same levels of understanding and involvement regarding the innovation. Support from those colleagues outside one's own institution, obtained through the direction of inservices for others or through attendance and involvement at follow-up workshops, may be needed to keep the "fires burning" for change and to continue commitment to the change. Getting a fresh perspective from these other colleagues might help a struggling innovation user overcome the hurdles that arise as one attempts to implement.

Recommendations for Practice

Several issues are raised by the results of this study in terms of practice. Compatibility and practicality of the innovation and continued involvement outside one's own classroom are important to the implementation process. What can be done to foster these factors?

If compatibility of the proposed change to current teaching style and approach to classroom management is important, inservice courses that promote the adoption and implementation of cooperative learning need to address these aspects. Taking time to help teachers reflect on their current teaching style and to present the elements of active instruction may be a better way to start, rather than beginning with a presentation of the innovation itself. Then, a focus on various classroom management approaches might be incorporated into the training of teachers in the use of cooperative learning or into inservice courses on innovations in general. Doing this might expand the teachers' repertoire to include those approaches that focus on group process and interrelationships. In this way, teachers will begin to see their students as both individuals and as a whole group, an important factor in the implementation of cooperative learning. Learning about alternative approaches may also work toward decreasing teacher concerns in the area of time management.

Opportunities for continued involvement in the innovation outside one's own classroom must be provided. Using those who are implementing the innovation as trainers of others may be one way to accomplish this. In addition, advanced courses could be developed to help teachers problem solve as they encounter hurdles in implementation and to share ideas with teachers in other situations. Continued involvement with others, especially teachers in other situations who are using the innovation may help teachers realize the practicality of the innovation. Observations of other teachers actually using cooperative learning, for example, might encourage teachers to persist in the implementation process.

Currently, there is a lack of consistent follow-up to inservice training of teachers, especially when the training is through university courses. A slowly growing number of educators, however, are unwilling to continue conducting "parachute drop" inservices. They are realizing the need for continued support through the implementation stage of the change process.

Changes do occur in education. Cooperative learning, for example, has been successfully implemented by many teachers. Considering the factors suggested by this study may increase the likelihood that the implementation of future innovations that also have a positive impact on education will occur.

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Table 1

Extent of Use of Cooperative Learning

	Effective	Competent	Marginal	Nonusers
FREQUENCY				
times	daily	every Friday & 2-3 per week	1-3 per week	never
subject areas	all	art, math, spelling, some soc st & sci	1-2 areas	none
CHARACTERISTICS OF THE MODEL				
face to face	always	always	usually	no
social skills	always, specific	always, specific	limited, usu general	no
positive interdependence	varied means	same ways	weak structure	no
individual accountability	always	always	limited	no
teacher role	obs, some interaction	interaction	intervention, interference	no
processing	whole grp, by sm grps	whole grp, with ind grps	limited whole grp, ind grps	no
TYPES OF ACTIVITIES				
rote memory	yes	yes	yes	no
practice	yes	yes	yes	no
problem solving	yes	no	somewhat	no
application	yes	no	no	no
synthesis	yes	somewhat	no	no
INCORPORATION OF COOPERATION	complete	complete	some	very limited

Table 2

Factors Related to Extent of Use

	Effective	Competent	Marginal	Nonusers
PRINCIPAL	educator facilitator praiser visible	educator facilitator praiser visible	manager initiator	manager initiator
TEACHER'S APPROACH				
style	active instruction	active instruction	t-directed activities	t-directed activities
concern	collaboration	collaboration	time	time
management	grp process	relationships	authoritarian	authoritarian
view of self	professional	professional	negative "one of gang"	negative "one of gang"
view of students	grp + ind	grp + ind	individuals	group
visuals	many	many	few	few
TEACHER'S PERCEPTION OF COOPERATIVE LEARNING	practical & compatible	somewhat prac & comp	not completely prac, somewhat compatible	not prac, not compatible
CONTINUED INVOLVEMENT	continued	continued	limited	none